

CLAIMS:

1. A photopolymerizable composition which comprises at least one photopolymerizable monomer, at least one photopolymerization initiator, and at least one long chain alkylamine having (i) one or two methyl or ethyl groups and (ii) at least one alkyl group having a chain length of at least 8 carbon atoms.
2. A composition as in Claim 1 wherein said composition is devoid of any component having one or more free carboxyl groups.
3. A composition as in any of Claims 1-2 wherein said photopolymerizable monomer is a mixture of at least two photopolymerizable monomers.
4. A composition as in any of Claims 1-3 wherein said photopolymerization initiator is one or more Type I photoinitiators.
5. A composition as in any of Claims 1-3 wherein said photopolymerization initiator is one or more Type II photoinitiators.
6. A composition as in any of Claims 1-3 wherein said amine is one or more trialkyl amines each having a total of 10 to about 24 carbon atoms in the molecule, and wherein two of the alkyl groups are methyl or ethyl, or one of each, and the remaining alkyl group contains at least 8 carbon atoms.
7. A composition as in Claim 6 wherein said two of the alkyl groups are both methyl groups and said remaining alkyl group is a primary alkyl group containing in the range of 8 to about 22 carbon atoms.
8. A composition as in Claim 6 wherein said one or more trialkylamines are one or more of dodecyldimethylamine, tetradecyldimethylamine, hexadecyldimethylamine, and octadecyldimethylamine.
9. A composition as in any of Claims 1-3 wherein said amine is one or more trialkyl amines each having a total of 17 to about 38 carbon atoms in the molecule, and wherein one of the alkyl groups is methyl or ethyl, and the other two alkyl groups are the same or different, and each is a primary alkyl group.
10. A composition as in Claim 9 wherein said one of the alkyl groups is methyl and said other two alkyl groups are primary alkyl groups containing, independently, in the range of 8 to about 22 carbon atoms.
11. A composition as in Claim 10 wherein said one or more trialkylamines are didecylmethylamine or dodecylmethylamine, or both.
12. A composition as in any of Claims 1-11 further comprising at least one pigment, dye, or other color-producing substance whereby the composition is adapted for forming permanent printed, decorative, or pictorial matter on a substrate when applied thereto and photopolymerization in place.

13. A photopolymerized composition or article formed from a composition as in any of Claims 1-12.

14. A photopolymerized composition or article as in Claim 13 wherein said photopolymerized composition or article is an unwashed composition or article.

15. A photopolymerized composition or article as in Claim 13 wherein said photopolymerized composition or article is in the form of a thin coating on paper or thin paperboard stock.

16. A photopolymerized composition or article as in Claim 15 wherein said photopolymerized composition or article is an unwashed composition or article.

17. A method of forming a photopolymerized composition or article, which method comprises exposing a photopolymerizable composition as in any of Claims 1-12 to sufficient radiation to photopolymerize said photopolymerizable composition.

18. A method as in Claim 17 wherein the photopolymerization is effected using coherent radiation.

19. A method as in Claim 17 wherein the photopolymerization is effected using non-coherent radiation.

20. A method as in any of Claims 17-19 wherein said photopolymerizable composition is photopolymerized as a thin coating on a travelling web.

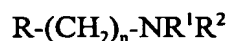
21. A method as in any of Claims 17-19 wherein said photopolymerizable composition is photopolymerized as an a coating or laminate on a substrate.

22. A method as in any of Claims 17-19 wherein said photopolymerizable composition is photopolymerized as an article or shape while in a mold.

23. A composition as in any of Claims 1-12 further comprising at least one short chain tertiary amino compound containing at least two electronegative atoms in the molecule, at least one of which is a tertiary nitrogen atom and another of which is an oxygen atom or a tertiary nitrogen atom, and wherein the electronegative atoms are bonded only to short chain alkyl groups or to short chain alkylene groups, and wherein the compound has a total of at least 4 abstractable hydrogen atoms in positions alpha to at least some of the electronegative atoms in the compound.

24. A composition as in Claim 23 wherein said compound has a total of at least 6 abstractable hydrogen atoms in positions alpha to at least some of the electronegative atoms in the compound.

25. A composition as in Claim 23 wherein said compound is represented by the formula:



where

A) R is (i) a dialkylamino group in which each alkyl is, independently, a C₁₋₃ primary

alkyl group; (ii) an N-alkylpiperazinyl group in which the alkyl is a C₁₋₃ primary alkyl group, or (iii) a morpholino group;

R¹ is a dialkylamino group in which each alkyl is, independently, a C₁₋₃ primary alkyl group;

R² is (i) a dialkylamino group in which each alkyl is, independently, a C₁₋₃ primary alkyl group; (ii) an alkyleneamino group in which alkylene is a C₁₋₃ alkylene group and the amino is a dialkylamino group in which each alkyl is, independently, a C₁₋₃ primary alkyl group; (iii) an alkyleneaminoalkyleneamino group in which each alkylene is, independently, a C₁₋₃ alkylene group, the amino between the alkylenes is a C₁₋₃ primary alkylamino group, and the other amino is a dialkylamino group in which each alkyl is, independently, a C₁₋₃ primary alkyl group; (iv) an alkyleneoxyalkyleneamino group in which each alkylene is, independently, a C₁₋₃ alkylene group, and the amino is a dialkylamino group in which each alkyl is, independently, a C₁₋₃ primary alkyl group; or (v) an alkyleneoxyalkyleneoxyalkyleneamino group in which each alkylene is, independently, a C₁₋₃ alkylene group, and the amino is a dialkylamino group in which each alkyl is, independently, a C₁₋₃ primary alkyl group;

or where

- B) R is (i) a dialkylamino group in which each alkyl is, independently, a C₁₋₃ primary alkyl group; (ii) an N-alkylpiperazinyl group in which the alkyl is a C₁₋₃ primary alkyl group, or (iii) a morpholino group; and R¹ and R² taken together is (i) an N-alkylpiperazinyl group in which the alkyl is a C₁₋₃ primary alkyl group, or (ii) a morpholino group.

26. A photopolymerized composition or article formed from a composition as in any of Claims 23-25.